

AD-A040 924

EXPLOSIVES RESEARCH AND DEVELOPMENT ESTABLISHMENT WA--ETC F/G 5/2
UNLIMITED REPORTS AND PUBLICATIONS IN THE OPEN LITERATURE 1969---ETC(U)
NOV 76

UNCLASSIFIED

DRIC-BR-57047

NL

| OF |
AD
A040 924



END

DATE
FILMED

7-77

AD A 040924

✓ BR57047

Procurement Executive Ministry of Defence

Explosives Research and Development Establishment - Rocket Propulsion Establishment

6
B.S.



***Explosives Research
and Development
Establishment***

**Unlimited Reports and Publications
in the Open Literature**

1969 - 1974

November 1976

COPYRIGHT ©

CONTROLLER HMSO LONDON

1976

**AD No. —
DDC FILE COPY**

**Waltham Abbey
Essex**

UNLIMITED



UNLIMITED

EXPLOSIVES RESEARCH AND DEVELOPMENT ESTABLISHMENT

18 DRIC

19 BR-57047

6
UNLIMITED REPORTS AND PUBLICATIONS
IN THE OPEN LITERATURE
1969 - 1974 .

11 Nov 1976

12 38p

DDC
REFORMED
JUN 22 1977
RECEIVED

UNLIMITED

132900

Inac

Further copies can be obtained from the Technology Reports Centre,
Orpington, Kent. BR5 3RF

CONTENTS

	<u>Page No</u>
1 UNLIMITED REPORTS	5
2 PUBLICATIONS IN THE OPEN LITERATURE	15
3 AUTHOR INDEX	34

SEARCHED	INDEXED
SERIALIZED	FILED
OCT 1964	
FBI - NEW YORK	
BY SP-5 J. H. [illegible]	
[illegible]	
A	

1 UNLIMITED REPORTS

Number	Year	Author	Title
9/R/68	1968	Hawkins S J Hicks J A	A New Explosive Technique for Synthesizing a Wide Range of Pressure Waveforms in Air: Part 1: Approximate Theory of Air Blast from Extended Explosive Charges.
10/R/68	1968	Hawkins S J Hicks J A	A New Explosive Technique for Synthesizing a Wide Range of Pressure Waveforms in Air: Part 2: The Application of Linear Explosive Charges to the Simulation of Sonic Bangs.
13/R/68	1968	Cannell J C	The Compatibility of Whiskers of Silicon Nitride, Silicon Carbide and Alumina with Metallic Matrices at High Temperatures.
16/R/68	1968	Cannell J C	The Reinforcement of Aluminium with Silicon Nitride Whiskers.
18/R/68	1968	Brokenbrow B E Hollingsworth B L Stokoe A L	Conductive Rubbers.
20/R/68	1968	Evans D J Hollingsworth B L Ledbury K J Stokoe A L	Resistance of Rubbers to Tropical and Temperate Climates.
22/R/68	1968	Bryant R W Dukes W A	The Tensile Properties of a Polyurethane Propellant UP 2.
25/R/68	1968	Hobin T P	Surface Tension in Relation to Cohesive Energy with Particular Reference to Hydrocarbon Polymers.

PRECEDING PAGE BLANK - NOT FILMED

Number	Year	Author	Title
9/R/69	1969	Hollingsworth B L Ledbury K J Stokoe A L	Accelerated and Climatic Ageing of Polyurethanes.
TR2	1969	Brokenbrow B E Hollingsworth B L Ledbury K J Sims D	Fibre-filled Thermoplastics: Part 1: Asbestos.
TR7	1969	MacNulty B J	The Structure and Behaviour of Polycarbonate Film: Part 1: Film Cast from Solution.
TR10	1969	Hobin T P	The Binder/Oxidant Interface in Plastic Propellant.
TR14	1970	Edwards H	Asbestos and Surface Treated Asbestos as Reinforcing Agents for Thermoplastics and Rubbers.
TR16	1970	MacNulty B J	The Structure and Behaviour of Polycarbonate Films: Part 2: Film Cast from the Melt.
TR17	1970	MacNulty B J	The Structure and Behaviour of Polycarbonate Films: Part 3: Stress Cracking Phenomena.
TR18	1970	Stokoe A L Ledbury K J	Permeability of Polymers to Organic Fluids: Part 1.
TR20	1970	Brokenbrow B E Sims D Wright J	Polyurethane Elastomers Based on Hydroxyl-terminated Polybutadienes.
TR32	1970	Bagley M J Fraser R T M Paul N C	The Mass Spectrometry of Aromatic Azides.

Number	Year	Author	Title
TR33	1970	Fraser R T M Paul N C Richards D H Scilly N F	The Mass Spectrometry of Substituted Octadienes.
TR39	1970	Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties: Part 1: Degree of Crosslinking.
TR40	1970	Brokenbrow B E Sims D Stokoe A L	Low Temperature Flexibility of Elastomers.
TR44	1971	Ledbury K J Sims D Stokoe A L	The Storage Life of Fully Compounded Rubber Stocks: Part 1: Initial Studies.
TR45	1970	Blay N J Dunstan I	Compatibility and Stability Testing of Explosives and Solid Propellants.
TR46	1973	Dedman A J Lovecy A L	The ACP Tube: Initiation of Detonation without the Use of Primary Explosives.
TR50	1970	Grindrod L E Palmer G A Stocks G W	The Measurement of Rate of Burning of Cast Double-Base Propellants: Part 1: A Ballistic Assessment of ATN(D28) Casting Powder.
TR53	1971	Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties: Part 2: Effect of Backbone Polyol.
TR54	1971	Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Structure and Ageing Properties: Part 3: Effective Crosslink Structure.

Number	Year	Author	Title
TR68	1971	Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties: Part 4: Effect of Di-isocyanate.
TR71	1971	Bryant R W	Handbook of Sealants for Ammunition.
TR75	1971	Ayerst R P Tucker B G	Improvements in Tensile Testing of Composite Propellants.
TR77	1972	Brokenbrow B E Sims D Wright J	High Performance Polyurethane Elastomers: Part 1: Laboratory Ageing Trials.
TR81	1972	Dingle L E Edwards H	Some Mechanical and Physical Properties of Discontinuous Carbon Fibre Reinforced Plastics.
TR83	1972	Brokenbrow B E Sims D Wright J	High Performance Polyurethane Elastomers: Part 2: Millable Elastomers and Syntactic Foams.
TR87	1972	Gledhill V M Dukes W A	Parallel Plate Plastometry of Plastic Propellant: Part 2: Determination of Plastoviscosity and the Flow Curve Equation.
TR88	1972	Richards R W Sims D	Glass Filled Thermoplastics - Effects of Glass Variables and Processing on Properties.
TR91	1972	Stokoe A L	Heat Ageing of Rubbers.
TR92	1973	Ledbury K J Richards R W Stokoe A L	Storage Life of Fully Compounded Rubber Stocks: Part 2: 12 months' Storage Testing: Part 3: Subsequent Ageing Behaviour.
TR93	1972	Brokenbrow B E Stokoe A L	The Effect of High Temperature and Oil Immersion on Rubbers.

Number	Year	Author	Title
TR99	1972	Hamman B L	The Application of Data Processing to Mechanical Testing: Part 1: Tensile Testing of Thermoplastics.
TR103	1972	Merrifield R	Shock Induced Reaction in Explosives and Propellants.
TR107	1972	Wright J	Outdoor and Accelerated Weathering of Elastomers and Plastics: The Assessment of an Accelerated Weathering Test Chamber.
TR111	1972	Hamman B I	The Application of Data Processing to Mechanical Testing: Part 2: Comparisons with Conventional Practice.
TR114	1972	Hamman B L	The Application of Data Processing to Mechanical Testing: Part 3: Flexural Tests and Tensile Tests on Rubbers.
TR115	1973	Blay N J Dunstan I	Compatibility Testing of Primary Explosives and Pyrotechnics.
TR120	1973	Atkins R W Greenwood L Punter T J	An Investigation into the Influence of Surface Pre-Treatment by Particle Impact on the Strength of Adhesive Joints between Like Steel Surfaces.
TR129	1973	Eldridge D A G Mansell D H L	A Frequency Response Analysis System for the Measurement of the Dynamic Properties of Non-metallic Materials.
TR130	1973	Hamman B	A Forced Vibration Method for the Measurement of Dynamic-Mechanical Properties of Materials.

Number	Year	Author	Title
TR132	1973	Baker F S Osborn A R Williams J	Development of Field Emitter Cathodes for Electron Beam Devices.
TR135	1973	Richards R W	The Permeability of Polymers to Gases, Vapours and Liquids.
TR139	1973	McGuchan R Spickernell G J	CTPB Cure Studies: Part 1: Effect of Catalysts on Epoxide Cure of Gumstocks.
TR140	1973	Barratt A J Fraser R T M Healey M J	Determination of Water in Rubbers.
TR141	1973	Davis A Gordon D Howell G V	Continuous World Wide UV Monitoring Programme.
TR145	1973	MacNulty B J	The Strength of Thermoplastic Materials: Part 1: Critical Stress Cracking in Uniaxial Tension of Polymers with Phenylene Groups in the Main Chain.
TR151	1973	McGuchan R Spickernell G J	CTPB Cure Studies: Part 2: Effect of Experimental Variables on Epoxide Cure and Properties of Gumstocks.
TR154	1974	Dukes W A	Rheological Characterisation of Plastic Propellant by Extension under Constant Load.
TR168	1974	Blay N J Pembbridge E F	The Compatibility of "Loctite" Sealants with Explosives.
TR177	1974	Jones C M S Tucker B G	The Use of the Continuous Flow Method of Surface Area Measurement for Ammonium Perchlorate.

Number	Year	Author	Title
TR182	1974	Gledhill R A Kinloch A J	Environmental Failure of Structural Adhesive Joints.
TR184	1974	Blay N J Pembbridge E F	The Compatibility of Rubber/Resin Adhesives with Explosives.
10/M/68	1968	Cole L D Pape R	The Testing of Safety Spectacles, Lenses, Goggles and Visors, Part 2.
11/M/68	1968	Brokenbrow B E Sims D Stokoe A L	Fibre Filled Rubbers.
13/M/68	1968	Burgess J A Harper M J Hicks J A	Optical Effects in Underwater Explosions of Spherical Symmetry.
15/M/68	1968	Bryant R W Dukes W A	Measurement of Embrittlement Temperatures (Brittle Points) of Composite Propellants by the Bending Beam Method.
17/M/68	1968	Hawkins S J Hicks J A	Some Measurements on the Sonic Bangs Produced at Exercise "Westminster".
22/M/68	1968	Fraser R T M	The NMR Spectra of Nitrate Esters.
3/M/69	1969	Bell J A	The Preparation of Some Bis-(β -Diketones).
4/M/69	1969	Bryant R W Dukes W A Gledhill R A	The Tensile Properties of a Polybutadiene Propellant, C37.
5/M/69	1969	Bryant R W Dukes W A Gledhill R A	The Tensile Properties of Plastic Propellant RD2404/Lot 19.
7/M/69	1969	Howes B V Roberts J	Molecular Spacings Calculated from Density Measurements for the Normal Paraffins.

Number	Year	Author	Title
8/M/69	1969	Hammant B L Roberts J Sumner R L	The Elasticity and Viscosity of the Normal Paraffins.
10/M/69	1969	Mansell D H L	Eight-Channel Automatic Recording Viscometer.
TN3	1969	Grindrod L E	Calorimetric Values (Water Liquid) of Propellant Ingredients.
TN11	1970	Bryant R W Dukes W A Gledhill R A	The Tensile Properties of Plastic Propellant RD2428.
TN13	1970	Bryant R W Dukes W A Gledhill R A	Tensile Properties of Plastic Propellants RD2435, E3342 and E4058.
TN15	1970	Booth C Davis A Scilly N F	Characterisation and Evaluation of the Pye Liquid Chromatograph.
TN16	1970	Rankine J G Turner H C	A Design for a Rotary Machine to Assess the Friction Sensitiveness of Explosives and Propellants.
TN18	1970	Batty W E Bell J A Clements P J Debenham D F Duke J R C Mullenger D C	Some Solvates of BSX.
TN19	1970	Clarke A K Jenkins J M Rankine J G	Precipitation Unit for Initiators (600 ml Gross Capacity Vessel).
TN20	1970	Turner H C	A Design for a Hydrostatic Pressure Chamber for Calibrating Piezoelectric Pressure Transducers.

Number	Year	Author	Title
TN21	1970	Jenkins J M White J R	The Salts of 5-Substituted Tetrazoles: Part 1: 5,5'-Hydrazotetrazole and the Salts of 5-Nitrotetrazole and 5-Chlorotetrazole.
TN22	1970	Bryant R W	Composite Propellants: Statistical Evaluation of Brittle Point (Embrittlement Temperature) Tests.
TN25	1970	Bates L R Jenkins J M	The Salts of 5-Substituted Tetrazole: Part 2: Some Metallic Salts and Complexes of Tetrazole, 5-Aminotetrazole, 5-Phenyltetrazole and 5-Methyltetrazole.
TN27	1971	Fraser R T M	Analysis in the Near Infrared - A Short Review.
TN28	1971	Paul N C	Mass Spectrometric Analysis of Complex Gas Mixtures.
TN30	1971	Chudyszewicz V M Dukes W A	Plastic Propellant Rheology: The Velocity Profile in Tubular Flow.
TN33	1971	Chudyszewicz V M Dukes W A	Plastic Explosive Rheology.
TN34	1972	Batty W E	The Setting Point of Dimethyl Phthalate (DMP) as a Criterion of its Purity.
TN39	1971	Bell J A	Preparation of some Polynitrophenyl Acetates.
TN44	1971	Barratt A J Bates L R Jenkins J M White J R	Some Reactions of the Azotetrazole Anion with Dilute Mineral Acids.
TR47	1972	Stenson R	Factors Governing the Storage Life of Solid Propellant Rocket Motors.

Number	Year	Author	Title
TN48	1971	Stenson R	The Interaction of Cellulose Acetate and Ethyl Cellulose Inhibitors with Double-Base Propellants.
TN51	1971	Stokoe A L	Resistance of Rubbers to Tropical and Temperate Climates: Part 2: Four and Five Years' Exposure.
TN55	1972	Blay N J Pembrige E F	Compatibility of Compounded Rubbers Containing the Antioxidants Octamine and Flectol H with High Explosives and Propellants.
TN73	1973	Hart P R	Improvements to Automatic Oxygen Absorption Apparatus.
TN75	1973	Sims D	The Effect of Weathering on the Impact Strength of Nylon.
TN82	1973	Simkins R J J Squire J	The Rapid Determination of Volatile Matter by the Mytron FAB-1 Moisture Meter.
TN83	1973	Cleves A C Jenkins J M Parkinson A G	The Determination of Particle Size by an Automated Quantimet 'B' Image Analysing Computer.
TN86	1973	Gooding J	The Scope and Methods of Environmental Testing of Double-Base Propellant Rocket Motors: Choice of Conditions and Interpretation of Results.
TN90	1973	Durrant R	A Titrator with Automatic End-Point Detection for Water Determinations by Karl Fischer Reagent.
TN92	1973	Howes B V	Computer Assisted Presentation of Results from Ultraviolet Monitoring Trials.

Number	Year	Author	Title
TN95	1973	Kinloch A J	Environmental Failure of Structural Adhesive Joints: A Literature Survey.
TN97	1973	Hammant B L	A Computer Program for the Calculation of Coefficients of Diffusion of Liquids in Rubbers.
TN128	1974	Pullen W J	The Effect of Notch Geometry on the Charpy Impact Strength of Certain Thermoplastics.
1/S/69	1969	Beech J C	Forced Convection Heat Transfer to Supercritical Cryogenic Hydrogen: Part 1: Literature Survey.
Translation 1	-	Ross R G	The Effect of Ignition of Small Quantities of Initiators in Laboratory Vessels of Glass and Polythene. FOA 1 Report A 1452-40 November 1968. Translated by R G Ross.

2 PUBLICATIONS IN THE OPEN LITERATURE

Author	Title	Journal Reference
Avery H E Hayes D M Phillips L	Reactions of Acetyl and Methyl Radicals with Nitric Oxide.	J Phys Chem, 1969, <u>73</u> , 3498
Bagg G E G Evans M E N Pryde A W H	The Glycerine Process for the Alignment of Fibres and Whiskers.	Composites, 1969, <u>1</u> , 2, 97

Author	Title	Journal Reference
Batty W E	Inorganic High Energy Oxidisers.	Chem and Ind, 1969, <u>35</u> , 1231
Bell J A Dunstan I	Chemistry of Nitramines. Part V. Reactions of some Cyclic Tertiary Amines, containing Nitramino-groups in the Ring System, with Nitric Acid.	J Chem Soc, (C), 1969, 1556
Bell J A Dunstan I	Chemistry of Nitramines. Part VI. Reactions of Hexamethylenetetramine with Nitric Acid.	J Chem Soc, (C), 1969, 1559
Bellamy L J Osborn A R Lippincott E R Bandy A R	Studies of the Molecular Structure and Spectra of Anomalous Water.	Chem and Ind, 1969, 21, 686
Bellamy L J Owen A J	A Simple Relationship between the Infra-red Stretching Frequencies and the Hydrogen Bond Distances in Crystals.	Spectrochim Acta, 1969, <u>25A</u> , 329
Bellamy L J Pace R J	The Significance of Infra-red Frequency Shifts in Relation to Hydrogen Bond Strengths.	Spectrochim Acta, 1969, <u>25A</u> , 319
Brokenbrow B E Hollingsworth B L Stokoe A L	The Effect of Moulding Conditions on the Properties of Two Thermoplastics.	Conference on Research on Engineering Properties of Plastics, Cranfield, 6 - 8 January 1969. Paper No 9. (ERDE Offprint No 69/4.)

Author	Title	Journal Reference
Brokenbrow B Sims D Stokoe A L	Asbestos Fillers in Rubber.	Rubb J, 1969, <u>151</u> , 10, 61
Brokenbrow B Sims D Stokoe A L	Conductive Rubbers.	Rubb J, 1969, <u>151</u> , 12, 30
Bryant R W Dukes W A	Shear Strength of Joints of Different Designs and Various Adhesive Thicknesses.	Ministry of Technology, "Adhesion: Fundamentals and Practice", MacLaren & Sons, London, 1969, p.230
Copping C Uri N	Catalytic and Inhibitory Effects of Metal Chelates in Autoxidation Reaction.	Discuss Faraday Soc, 1968, <u>46</u> , 202. (ERDE Offprint No 69/2.)
Davis A	Thermal Stability of Polysulphone.	Makromol Chem, 1969, <u>128</u> , 242
Davis A Golden J H	Stability of Polycarbonate.	J Macromol Sci - Revs Macromol Chem, 1969, <u>C3</u> , 1, 49
Dukes W A Bryant R W Dunstan I	The Effect of Adhesive Thickness on Joint Strength Explosives and Propellants.	J Adhesion, 1969, <u>1</u> , 48 Reports on the Progress of Applied Chem, 1968, <u>53</u> , 115
Finch A Hameed A Gardner P J Paul N	The Phosphorus-Phosphorus Bond: some Electron Impact Studies.	Chem Commun, 1969, 391

Author	Title	Journal Reference
Fox P G Jenkins J M Taylor G W C	Spontaneous Explosions in Lead Azide Solutions.	Explosivstoffe, 1969, <u>17</u> , 8, 181
Fraser R T M Paul N C	The Mass Spectrometry of Nitrate Esters and Related Compounds. Part II.	J Chem Soc, (B), 1968, 1407
Golden J H Hammant B L Hazell E A	Failure Loci for a Thermoplastic at Various Temperatures.	J Appl Polymer Sci, 1969, <u>13</u> , 3, 459
Greenwood L Boag T R McLaren A S	Stress Distribution in Lap Joints.	Ministry of Technology, "Adhesion: Fundamentals and Practice", MacLaren & Sons, London, 1969, p.273
Hobin T P	Polymers as Limiting Members of Homologous Series.	Eur Polymer J, 1969, <u>5</u> , 361
Hollingsworth B L	New Fibre-filled Thermoplastics. Part 1 - The Future for Asbestos.	Composites, 1969, <u>1</u> , 1, 28
Hollingsworth B L Sims D	New Fibre-filled Thermoplastics. Part 2 - Reinforcement by High Modulus Fibres.	Composites, 1969, <u>1</u> , 2, 80
Jacobs P W M Powling J	The Role of Sublimation in the Combustion of Ammonium Perchlorate Propellants.	Combustion and Flame, 1969, <u>13</u> , 1, 71
Lewis T J	Equilibrium Computations on the C-Cl-H-Si System.	Mat Res Bull, 1969, <u>4</u> , S 321

Author	Title	Journal Reference
MacNulty B J	Microscopic Observations of Unreported Crystalline Formations in Polycarbonate and Polysulphone.	J Mat Sci, 1969, <u>4</u> , 10, 841
MacNulty B J	Morphology and Spherulite Formation in Polysulphone.	J Polymer Sci, 1969, A1, <u>7</u> , 10, 3038
Owen A J	The HMO Treatment and Configuration of some Substituted Phenols.	Tetrahedron, 1969, <u>25</u> , 3693
Parratt N J	Whisker Alignment by the Alginate Process.	Composites, 1969, <u>1</u> , 1, 25
Parratt N J Evans C C	Whiskers - the Strength of the Single Crystal.	New Scientist, 1969, <u>43</u> , 657, 68
Phillips L	Acetone Formation in the Pyrolysis of Acetaldehyde. Decomposition Reactions of the Isopropoxyl Radical.	J Phys Chem, 1969, <u>73</u> , 2090
Richards D H Scilly N F	The Synthesis of Regular Copolymers of 1,1-Diphenylethylene.	J Polymer Sci, 1969, B7, 99
Richards D H Scilly N F	Synthesis of 1,4-Substituted-1,4-Diphenylbutanes.	J Chem Soc, (C), 1969, 55
Richards D H Scilly N F	The Synthesis of Cycloalkanes via Anionic Coupling Reactions.	J Chem Soc, (C), 1969, 2661
Richards D H Scilly N F Williams F	Synthesis and Properties of Regular Copolymers. Part I. Reactions Involving Aliphatic Dihalides.	Polymer, 1969, <u>10</u> , 8, 603

Author	Title	Journal Reference
Richards D H Scilly N F Hutchinson S M	Synthesis and Properties of Regular Copolymers. Part II. Spectroscopic Analysis of Regular Copolymers of Vinyl Compounds with Aliphatic Dihalides.	Polymer, 1969, <u>10</u> , 8, 611
Williams R L	The Nuclear Magnetic Resonance and Infrared Spectra of Some Aziridine Boranes.	Acta Chem Scand, 1969, <u>23</u> , 149
Ayerst R P Phillips M I	Crystallization from Agitated Ammonium Perchlorate Solutions: Some Aspects of Nucleation and Growth.	Symposium on Industrial Crystallization organised by the Institute of Chemical Engineers, 17 April 1969, p 56
Ayerst R P Phillips M I	A Study of the Operation of a Pilot-Scale Forced Circulation Evaporating Crystallizer for Ammonium Perchlorate.	Symposium on Industrial Crystallization organised by the Institute of Chemical Engineers, 17 April 1969, p 177.
Baker F S	Field Emission from Silicon Carbide Whiskers.	Nature, 1970, <u>225</u> , 539
Carver F S Gallacher E J Tunstall F I H	Examination of Short Chain Polymers of α -Methylstyrene by Thin-Layer Chromatography.	Chromatographia, 1970, <u>3</u> , 333. (ERDE Offprint No 14.)
Cook J	Mechanical Testing of Whiskers.	Composites 1970, <u>1</u> , 3, 176

Author	Title	Journal Reference
Davis A	Comparison of the Thermal and Thermo Oxidative Stability of Polycarbonate, Polyphenylene Oxide, Polysulphone and Two Polyarylates.	Makromol Chem, 1970, <u>132</u> , 23
Davis A Golden J H Gleaves M Huglin M B	The Electron Irradiation Stability of Polysulphone.	Makromol Chem, 1969, <u>129</u> , 63
Davis A Richards D H Scilly N F	Structural Analysis of Regular Copolymers of Butadiene and Methylene with Repeat Unit [But-(CH ₂) _n -But] by the Use of Model Compounds - II. An Analysis of Factors which Influence the Proportion of 1,2-Addition.	Eur Polymer J, 1970, <u>6</u> , 1293
Duke J R C Duke A J Brook P R	Nuclear Magnetic Resonance Studies of the Monochloroketen-Cyclopentadiene Adduct, 7-endo-Chlorobicyclo[3,2,0]hept-2-en-6-one, and Crystal and Molecular Structure of the Derived 6-endo-ol p-Bromobenzoate.	Chem Comm, 1970, 10, 574
Edwards H	Study of the Reactions of Surface Hydroxyl Groups of a Chrysotile Asbestos with Organic Silanes by means of Infra-red Spectroscopy.	J Appl Chem, 1970, <u>20</u> , 76
Fraser R T M Paul N C Phillips L	Mass Spectrometry of Some Alkyl Peroxides.	J Chem Soc, (B), 1970, 1278

Author	Title	Journal Reference
Gleaves M H Pearce P J Richards D H Scilly N F	Synthesis and Properties of Regular Copolymers III. Reactions Involving Epichlorhydrin and Diepoxides.	Eur Polymer J, 1970, <u>6</u> , 1469
Hammant B L	Flexural Stress Relaxation Properties of Thermoplastics and Composite Materials.	Composites, 1970, <u>1</u> , 150
Hazell E A	Measurement of the Effects of Strain Rate on Mechanical Properties of Composites Part 1 - Instrumented Hounsfield Tensometers.	Composites, 1970, <u>1</u> , 362
Harper M J Hawkins S J Hicks J A	Explosively Generated Air Pressure Waves for Structural Forcing.	J Sound Vibr, 1970, <u>11</u> , 2, 217. (ERDE Offprint No 10.)
Lovecy A L	The Role of Shock in the Initiation of Secondary Explosives.	Combust Flame, 1970, <u>15</u> , 299
MacCallum J R Richards D H Tanner J	A Thermogravimetric Study of Hydrocarbon Condensation Copolymers.	Eur Polymer J, 1970, <u>6</u> , 1041
Parratt N J	Silicon Carbide as a Reinforcement.	Composites, 1970, <u>1</u> , 3, 141
Parratt N J	Filled Salt Lubrication of Extrusions.	ISI Publication 125 from Tribology in Iron & Steel Works Proceedings held 22 - 25 September 1969
Pearce P J Richards D H N F Scilly	A One-step Alternative to the Grignard Reaction.	Chem Comm, 1970, 18, 1160

Author	Title	Journal Reference
Pemberton M G Richards D H Scilly N F	Structural Analysis of Regular Copolymers of Butadiene and Methylene with Repeat Unit [But-(CH ₂) _n -But] by the Use of Model Compounds - I. The Effect of Changing "n" on the Microstructure of the Copolymers Prepared Using Lithium.	Eur Polymer J, 1970, <u>6</u> , 1083
Phillips L East R	Kinetics of Disproportionation-Combination Reactions between the n-Propoxyl Radical and Nitric Oxide, and of the Pyrolysis of the O-O Bond in Di-n-propyl Peroxide in the Gas Phase.	J Chem Soc, (A), 1970, 331
Pullen W J	The Rotary Cantilever Fatigue Test.	Composites, 1970, <u>1</u> , 4, 239
Richards D H Scilly N F	The Synthesis of New Regular Copolymers and Small Molecules by an Anionic Condensation Process.	Br Polymer J, 1970, <u>2</u> , 277
Richards D H Scilly N F Williams F J	Synthesis of 1,4-bis(2-Pyridyl)Butane and 1,4-bis(4-Pyridyl)Butane.	Chem Ind, 1970, 40, 1298
Tunstall F I H	Gas Chromatographic Determination of Plasticizers in Propellant Compositions.	Analyt Chem, 1970, <u>42</u> , 542
Tunstall F I H	The Determination of Gases Evolved from Stored Propellant Compositions by Gas Chromatography.	Chromatographia, 1970 <u>3</u> , 411. (ERDE Offprint No 15.)

Author	Title	Journal Reference
Tunstall F I H Carver F W S	The Determination of Residual Solvent in Propellant Compositions by Gas Chromatography.	Chromatographia, 1970, <u>3</u> , 461. (ERDE Offprint No 16.)
Uri N	Some Aspects of Thermal and Photochemical Autoxidation (21st Farkas Memorial Symposium).	Israel J Chem, 1970, <u>8</u> , 125
Bagg G E G Dingle L E Edwards H Evans M E N Ziebland H	Processes for the Utilisation of High Strength Discontinuous Fibres.	British Plastics Federation, Seventh International Reinforced Plastics Conference, Brighton, 1970, 6/1-6
Bell J A Kenworthy C	Cyanoethylation of some Alkanolamines.	Synthesis, 1971, 12, 649. (ERDE Offprint No 23.)
Bellamy L J Pace R J	Hydrogen Bonding in Alcohols and Phenols - III, Hydrogen Bonds between Alcohols and Carbonyl Groups.	Spectrochim Acta, 1971, <u>27A</u> , 705
Bellamy L J Blandamer M J Symons M C R Waddington D	Infra-red Spectra of Salt Hydrates. Correlation between the Fundamental Symmetric and Asymmetric Stretching Frequencies of the Water Molecules.	Trans Faraday Soc, 1971, <u>67</u> , 3435
Booth C Davis A Scilly N F	Characterisation and Evaluation of Pye Liquid Chromatograph.	Thermochimica Acta, 1971, <u>2</u> , 185

Author	Title	Journal Reference
Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties.	Rubb J, 1971, <u>153</u> , 6, 48
Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties.	Rubb J, 1971, <u>153</u> , 7, 44
Brokenbrow B E Sims D Wright J	Relationships between Polyurethane Elastomer Structure and Ageing Properties.	Rubb J, 1971, <u>153</u> , 8, 45
Cunliffe A V Davis A Richards D H Scilly N F	Anionically Prepared Copolymers and Small Molecules.	Br Polymer J, 1971, <u>3</u> , 101
Davis A Gordon D	Characterisation of Environments with Special Reference to Solar Radiation and its Effects.	Symposium of the Society of Environmental Engineers held at Imperial College of Science & Technology. October 27th 1971 (B1)
Duke J R C	X-Ray Crystal and Molecular Structure of 'Tetrazene' ('Tetracene'), $C_2H_8N_{10}O$.	Chem Commun, 1971, 1, 2
Dunstan I	Chemistry in the Technology of Explosives and Propellants.	Chem in Britain, 1971, <u>7</u> , 2, 62
Farey M G Tucker B G	Determination of Surface Areas by an Improved Continuous Flow Method.	Analyt Chem, 1971, <u>43</u> , 1307. (ERDE Offprint No 22.)

Author	Title	Journal Reference
Hammant B L	The Use of 4-Point Loading Tests to Determine Mechanical Properties.	Composites, 1971, <u>2</u> , 246
Hazell E A	Measurement of the Effect of Strain Rate on Mechanical Properties of Composites Part II Instrumented Avery Izod Pendulum Impact Machine.	Composites, 1971, <u>2</u> , 110
Hazell E A Sims D	Nylon Reprocessing - Its Effects on Water Absorption and Mechanical Properties.	Bri Plast, 1971, <u>44</u> , 73
Hewkin D J Hicks J A Powling J Watts H	The Combustion of Nitric Ester-Based Propellants: Ballistic Modification by Lead Compounds.	Comb Sci Technol, 1971, <u>2</u> , 307
MacNulty B J	Spiral and Other Crazing and Cracking in Polymers with Phenylene Groups in the Main Chain.	J Mat Sci, 1971, <u>6</u> , 1070
Richards R W Sims D	Glass-Filled Thermoplastics- Effects of Glass Variables and Processing on Properties.	Composites, 1971, <u>2</u> , 214
Uri N	A Novel Catalyst for the Cure of Carboxy-terminated Polybutadienes.	Br Polymer J, 1971, <u>3</u> , 138. (ERDE Offprint No 20.)
Baker F S Osborn A R Williams J	Field Emission from Carbon Fibres: A New Electron Source.	Nature, 1972, <u>239</u> , 96

Author	Title	Journal Reference
Bellamy L J Pace R J	The Effects of Non-Equivalent Hydrogen Bonding on the Stretching Frequencies of Primary Amines and of Water.	Spectrochim Acta, 1972, <u>28A</u> , 10, 1869
Cunliffe A V Hubbert W J Richards D H	Synthesis of Copolymers: Part I Copolymers of Styrene and α -Methylstyrene.	Makromol Chem, 1972, <u>157</u> , 23
Cunliffe A V Hubbert W J Richards D H	Synthesis of Copolymers: Part II Copolymers of Butadiene and Isoprene.	Makromol Chem, 1972, <u>157</u> , 39
Davis A Morgan M H Richards D H Scilly N F	Synthesis of Dialkyl Adducts of Activated Olefins and Dienes.	J Chem Soc, (Perkin I), 1972, 286
Davis A Richards D H Scilly N F	Evaluation of the Hydrocarbon Condensation Polymerisation Reaction by means of Model Compounds I. The Reaction with n-Alkyl Bromides.	Makromol Chem, 1972, <u>152</u> , 121
Davis A Richards D H Scilly N F	Evaluation of the Hydrocarbon Condensation Polymerisation Reaction by means of Model Compounds II. The Reaction with n-Alkyl Chlorides and Iodides, and sec- and tert-Alkyl Bromides.	Makromol Chem, 1972, <u>152</u> , 133
Dedman A J Lovecy A L	The ACP Tube: Initiation of Detonation without the Use of Primary Explosives.	Explosivstoffe, 1971, 3/4, 64
Dunstan I Pryde A W H	Processing of Dangerous Chemicals.	Chem & Ind, 1972, <u>2</u> , 67

Author	Title	Journal Reference
Evans C C	"Whiskers" .	M & B Monographs ME/8 Book Published by Mills & Boon Ltd 1972
Faraday C S N Treleor L R G White E F T Wright H	The Elastic Constants of Oriented Glassy Polymers.	J Phys D: Appl Phys, 1971, <u>4</u> , 2002
Grindlay J W	Determination of Hexahydro-1,2,5-Trinitro-s- Triazine (RDX) in Octahydro- 1,3,5,7-Tetranitro-s- Tetrazocine (HMX) by Infrared Spectrophotometry.	Analyt Chem, 1972, <u>44</u> , 9, 1676
Hobin T P	Surface Tension in Relation to Cohesive Energy with Particular Reference to Hydrocarbon Polymers.	J Adhesion, 1972, <u>3</u> , 237
Parratt N J	Fibre Reinforced Materials Technology.	Book Published by Van Nostrand Reinhold Company 1972
Pearce P J Richards D H Scilly N F	A One-Step Alternative to the Grignard Reaction. I The Use of Lithium Metal. II The Use of Sodium Metal.	J Chem Soc (Perkin I), 1972, 1655
Richards R W Sims D	Coupled Glass-Fibre/ Polypropylene Composite - An Initial Evaluation.	Composites, 1972, <u>3</u> , 4, 168
Bailey R T Burton J T A Hicks J A	The Radiative Properties of High Density Argon Plasma in Explosively Driven Shock Waves.	Astronautica Acta, 1973, <u>18</u> , 117. (ERDE Offprint No 30.)

Author	Title	Journal Reference
Bell J A Dunstan I	Explosives Chapter 19.	Materials & Technology, Vol IV, 1973, 709-7
Bassett D C Carder D R	Lamellar Thickening and Chain-extended Growth of Polyethylene.	Polymer, 1973, <u>14</u> , 387
Bassett D C Carder D R	Oriented Chain-extended Polyethylene. I Formation and Characterization. II Simple Mechanical Behaviour.	Phil Mag, 1973, <u>28</u> , 513 and 535
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diols Based on the Dimer of Butadiene.	Makromol Chem, 1973, <u>165</u> , 39
Cunliffe A V Pace R J Richards D H Scilly N F	Structural Analysis of Regular Copolymers of Butadiene and Methylene with Repeat Unit (But-(CH ₂) _n -But) by the Use of Model Compounds. Part III. An Analysis of the Factors which Influence the Ratio of cis and trans 1,4 Addition.	Eur Polymer J, 1973, <u>9</u> , 125
Hazell E A Sims D	Nylon Reprocessing - Its Effects on Water Absorption and Mechanical Properties.	Br Plastics, Oct 1971, 73. (ERDE Offprint No 26.)
MacNulty B J	Polymers with Phenylene Groups in the Main Chain. The Effect of Solvent on the Formation of Crystalline Entities.	J Materials Sci, 1973, <u>8</u> , 1495
Pearce P J Richards D H Scilly N F	Synthesis of 3-Butyl- 2-methylhept-1-en-3-ol.	Organic Synthesis, 1972, <u>52</u> , 19

Author	Title	Journal Reference
Richards D H Williams R L	The Structure of the Tetramer of α -Methyl Styrene.	J Polymer Sci, Polymer Chem Edn, 1973, <u>11</u> , 89
Smeeth A G Spickernell G J Warren J	Perchlorate Degradation of Ethyl Oleate in Solid Propellants.	Ind & Engng Chem Product Res & Dev, 1973, <u>12</u> , 75. (ERDE Offprint No 29.)
Uri N	The Chemical Causes of Oxidative Rancidity.	Inst of Food Science & Technology Proceedings 1973, <u>6</u> , 179
Young G H S	The Service Life of Rocket Motors Filled with Double Base Propellants.	Am Inst Aeronautics & Astronautics Paper No 72-1109. (ERDE Offprint No 27.)
Baker F S Osborn A R Williams J	The Carbon-Fibre Field Emitter.	J Phys D Appl Phys, 1974, <u>7</u> , 2105
Bonner T G Hancock R A Roberts J C	Nitrosative Cleavage of 1-Acetoxymethyl-3,5-dinitroperhydro-1,3,5-triazine by Dinitrogen Tetraoxide.	J Chem Soc, (Perkin II), 1974, 653
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part I The Formation and Stability toward Tetrahydrofuran of Alkali Metal Salts of Polynuclear Hydrocarbons.	Eur Polymer J, 1974, <u>10</u> , 8, 645

Author	Title	Journal Reference
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part II The Reaction of Alkali Metal Salts of Anthracene with Alkyl Halides.	Eur Polymer J, 1974, <u>10</u> , 8, 657
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part III Copolymers Formed from Polynuclear Hydrocarbons and Alkyl Dihalides.	Eur Polymer J, 1974, <u>10</u> , 8, 665
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diene and of Vinyl Copolymers Containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part V Copolymers Formed from Styrene or α -Methylstyrene Anthracene and Alkyl Dihalide.	Eur Polymer J, 1974, <u>10</u> , 945
Burgess F J Cunliffe A V Richards D H	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part VI Copolymers of Butadiene, Acenaphthylene or Phenanthrene and a Linking Agent.	Eur Polymer J, 1974, <u>10</u> , 953

Author	Title	Journal Reference
Burgess F J Cunliffe A V Richards D H Shadbolt P	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbons or Heterocyclic Adducts.	Eur Polymer J, 1974, <u>10</u> , 2, 193
Burgess F J Cunliffe A V Richards D H Shadbolt P	The Synthesis of Diene and of Vinyl Copolymers containing Predetermined Quantities of Polynuclear Hydrocarbon or Heterocyclic Adducts. Part IV Copolymers of Butadiene or Isoprene, Anthracene and a Linking Agent.	Eur Polymer J, 1974, <u>10</u> , 939
Burgess J N Lewis T J	Kinetics of the Reduction of Methyltrichlorosilane by Hydrogen.	Chem & Ind, 1974, 76
Cobbledick R E Small R W H	The Crystal Structure of the δ -Form of 1,3,5,7-Tetranitro-1,3,5,7-Tetraazacyclooctane (δ -HMX).	Acta Crystallographica, 1974, <u>B30</u> , 1918
Cosgrove J D Owen A J	The Thermal Decomposition of 1,3,5-Trinitro Hexahydro 1,3,5-Triazine (RDX) - Part I: The Products and Physical Parameters.	Combustion & Flame, 1974, <u>22</u> , 13
Cosgrove J D Owen A J	The Thermal Decomposition of 1,3,5-Trinitro Hexahydro 1,3,5-Triazine (RDX) - Part II: The Effects of the Products.	Combustion & Flame, 1974, <u>22</u> , 19
Costen J G Lewis J A	Flowrate Metering of Suspension of Carbon Fibre in Glycerines.	The Institute of Chemical Engineers Symposium Series No 38

Author	Title	Journal Reference
Davis A Gordon D	Rapid Assessment of Weathering Stability from Exposure of Polymer films. I Real and Simulated Weathering of Commercial ABS Terpolymers. II The Effectiveness of Different Regions of the Solar Spectrum in Degrading an ABS Terpolymer. III Relative Weathering Stability of ABS and Arylon, a Related Polymer Blend.	J Applied Polymer Sci, 1974, <u>18</u> , 1159
Dukes W A Gledhill V M	Determination of Plastoviscosity and the Flow Curve Equation of Stiff Pastes by Parallel Plate Plastometry.	Rheol Acta, 1974, <u>13</u> , 730
Grindlay J W	Special Applications of Thin-Layer Chromatography in the Identification of Diphenylamine Derivatives.	Explosivstoffe, 1973, <u>5</u> , 177
MacNulty B J	Critical Stress Cracking of Polymers with Phenylene Groups in the Main Chain.	Br Polymer J, 1974, <u>6</u> , 39

3 AUTHOR INDEX

Numbers refer to the pages on which full details are given. If two or more references appear on a page this is indicated by (2), (3) etc after the page number.

Atkins R W	9
Avery H E	15
Ayerst R P	8, 20(2)
Bagg G E G	15, 24
Bagley M J	6
Bailey R T	28
Baker F S	10, 20, 26, 30
Bandy A R	16
Barratt A J	10, 13
Bassett D C	29(2)
Bates L R	13(2)
Batty W E	12, 13, 16
Beech J C	15
Bell J A	11, 12, 13, 16(2), 24, 29
Bellamy L J	16(3), 24(2), 27
Blandamer M J	24
Blay N J	7, 9, 10, 11, 14
Boag T R	18
Bonner T G	30
Booth C	12, 24
Brokenbrow B E	5, 6(2), 7(4), 8(4), 11, 16, 17(2), 25(3)
Brook P R	21
Bryant R W	5, 8, 11(3), 12(2), 13, 17(2)
Burgess F J	29, 30, 31(4), 32(2)
Burgess J A	11
Burgess J N	32
Burton J T A	28
Cannell J C	5(2)
Carder D R	29(2)

Carver F S	20, 24
Chudyszewicz V M	13(2)
Clarke A K	12
Clements P J	12
Cleves A C	14
Cobbledick R E	32
Cole L D	11
Cook J	20
Copping C	17
Cosgrove J D	32(2)
Costen I G	32
Cunliffe A V	25, 27(2), 29(2), 30, 31(4), 32(2)
Davis A	10, 12, 17(2), 21(3), 24, 25(2), 27(3), 33
Debenham D F	12
Dedman A J	7, 27
Dingle L E	8, 24
Duke A J	21
Duke J R C	12, 21, 25
Dukes W A	5, 8, 10, 11(3), 12(2), 13(2), 17(2), 33
Dunstan I	7, 9, 16(2), 17, 25, 27, 29
Durrant R	14
East R	23
Edwards H	6, 8, 21, 24
Eldridge D A G	9
Evans C C	19, 28
Evans D J	5
Evans M E N	15, 24
Faraday C S N	28
Farey M G	25
Finch A	17
Fox P G	18
Fraser R T M	6, 7, 10, 11, 13, 18, 21
Gallacher E J	20
Gardner P J	17
Gleaves M	21, 22

Gledhill R A	11(3), 12(2)
Gledhill V M	8, 33
Golden J H	17, 18, 21
Gooding J	14
Gordon D	10, 25, 33
Greenwood L	9, 18
Grindlay J W	28, 33
Grindrod L E	7, 12
Hameed A	17
Hammant B L	9(4), 12, 15, 18, 22, 26
Hancock R A	30
Harper M J	11, 22
Hart P R	14
Hawkins S J	5(2), 11, 22
Hayes D M	15
Hazell E A	18, 22, 26(2), 29
Healey M J	10
Hewkin D J	26
Hicks J A	5(2), 11(2), 22, 26, 28
Hobin T P	5, 6, 18, 28
Hollingsworth B L	5(2), 6(2), 16, 18(2)
Howell G V	10
Howes B V	11, 14
Hubbert W J	27(2)
Huglin M B	21
Hutchinson S M	20
Jacobs P W M	18
Jenkins J M	12, 13(3), 14, 18
Jones C M S	10
Kenworthy C	24
Kinloch A J	11, 15
Ledbury K J	5, 6(3), 7, 8
Lewis J A	32
Lewis T J	18, 32
Lippincott T J	16

Lovecy A L	7, 22, 27
MacCallum J R	22
McGuchan R	10(2)
McLaren A S	18
MacNulty B J	6(3), 10, 19(2), 26, 29, 33
Mansell D H L	9, 12
Merrifield R	9
Morgan M H	27
Mullenger D C	12
Osborn A R	10, 16, 26, 30
Owen A J	16, 19, 32(2)
Pace R J	16, 24, 27, 29
Palmer G A	7
Pape R	11
Parkinson A G	14
Parratt N J	19(2), 22(2), 28
Paul N C	6, 7, 13, 17, 18, 21
Pearce P J	22(2), 28, 29
Pemberton M G	23
Pembridge E F	10, 11, 14
Phillips L	15, 19, 21, 23
Phillips M I	20(2)
Powling J	18, 26
Pryde A W H	15, 27
Pullen W J	15, 23
Punter T J	9
Rankine J G	12(2)
Richards D H	7, 19(4), 20, 21, 22(3), 23(3), 25, 27(5), 28, 29(3), 30(2), 31(4), 32(2)
Richards R W	8(2), 10, 26, 28
Roberts J	11, 12
Roberts J C	30
Ross R G	15

Scilly N F	7, 12, 19(4), 20, 21, 22(2), 23(3), 24, 25, 27(3), 28, 29(2)
Shadbolt P	32(2)
Simkins R J J	14
Sims D	6(2), 7(5), 8(4), 11, 14, 17(2), 18, 25(3), 26(2), 28, 29
Small R W H	32
Smeeth A G	30
Spickernell G J	10(2), 30
Squire J	14
Stenson R	13, 14
Stocks G W	7
Stokoe A L	5(2), 6(2), 7(2), 8(3), 11, 14, 16, 17(2)
Sumner R L	12
Symons M C R	24
Tanner J	22
Taylor G W C	18
Treleor L R G	28
Tucker B G	8, 10, 25
Tunstall F I H	20, 23(2), 24
Turner H C	12(2)
Uri N	17, 24, 26, 30
Waddington D	24
Warren J	30
Watts H	26
White E F T	28
White J R	13(2)
Williams F	19
Williams F J	23
Williams J	10, 26, 30
Williams R L	20, 30
Wright H	28
Wright J	6, 7(3), 8(3), 9, 25(3)
Young G H S	30
Ziebland H	24